

# Terwilliger Fire 2018 – Botany Report

10/14/2018



## OBJECTIVES

The objectives of the vegetation assessment are as follows: 1) evaluate the presence of, and potential risks from, invasive species; 2) recommend possible mitigations for these risks including seeding treatments, monitoring and removal treatments; 3) evaluate special habitats and sensitive species that lie within the fire perimeter and determine potential treatments to mitigate post fire risks.

## ISSUES

The major vegetation issues identified during field visits included threats to the ecological integrity of the area from the expansion of invasive species in, and adjacent, to the burned area, especially within the wilderness boundary.

## OBSERVATIONS

- A. 1100 acres of special habitat (non-forested), and 5800 acres of wilderness within the fire perimeter.
- B. 460 acres of roadside weed habitat within the heat perimeter which should be monitored, and an additional 62 acres of suppression repair lines and 20 acres of suppression points. (see BAER guidance paper on Invasive Plant Threats for support of surveys in suppression areas). NOTE: Danger tree removal areas where equipment went off road will be surveyed and treated using suppression funds.
- C. There are around 300 acres of mapped weeds. Mostly Scotch broom, false brome, Himalayan blackberry and spotted knapweed, especially along the 19 and 19-500 roads.

### Invasive Plant Species

Invasive plant species can threaten the ecological integrity by displacing native species. Burned areas are highly susceptible to invasion. The Willamette National Forest *Integrated Weed Management Plan (IWMP 2007)* for managing invasive weeds states that each infestation of weeds will be managed according to its classification; new invaders will be eradicated using all control methods available and will have highest priority. Established infestations will be kept in check through biological and manual control methods. The last category, potential invaders, will be treated as new invaders if they are discovered on national forest lands.

- A. The Terwilliger fire had many invasive plant (weed) populations, identified in NRIS database of record for invasive plants and via road surveys during BAER field work, within or near the fire area mapped, but not all areas have been surveyed and the initial BAER assessment occurred after many species would be senesced or dead. Invasive plants of concern in the area are false brome (*Brachypodium sylvaticum*), Scotchbroom (*Cytisus scoparius*), Armenian/Himalayan blackberry (*Rubus armeniacus*), Evergreen blackberry (*Rubus laciniatus*), Sweetpea (*Lathyrus latifolius*), Cheatgrass (*Bromus tectorum*), Herb Robert (*Geranium robertianum*) and Spotted knapweed (*Centaurea stoebe*), with multiple other populations of unlisted invasives such as, Laurel (*Prunus laurocerasus*), ox-eye daisy (*Leucanthemum vulgare*), Canada thistle (*Cirsium arvense*), Bull thistle (*Cirsium vulgare*), Lemon balm (*Melissa officianalis*), Tansy ragwort (*Senecio*



*jacobea*), and St. Johns Wort (*Hypericum perforatum*). The Terwilliger fire area will be vulnerable to spread of known populations or recruitment of new populations that may threaten current native plant populations. This BAER process is to mitigate the effects of invasive plant infestations through detection and treatments. It is not the intent of this plan to use the BAER process to treat existing known populations of invasive plants; however, treating these known populations may be one method of mitigation available to prevent the spread of weeds into areas compromised by the fires.

- B. Most invasive plants are located along roads or close proximity to roads, with the exception of the southwest portion of the 1994 road (decommissioned) which has mapped populations of False brome, Spotted Knapweed and Candada Thistle that may enter the Wilderness area via newly burned areas. Areas where the fire burned up to or over the road where existing weed populations occur has the highest degree of vulnerability to the spread of invasive plants. Vehicles and people act as a vector carrying invasive seeds to recently disturbed areas. Fire personnel from other areas probably had weed seed on their vehicles, boots and other personal gear. Dozers and other heavy equipment used during the fire were inspected and washed upon arrival but it is possible that they also carried in weed seed. Equipment used during suppression almost certainly picked up seed from existing populations along the road (most notably False brome but likely other species as well) and carried it off road, increasing the risk of new invasions in the interior of the fire.

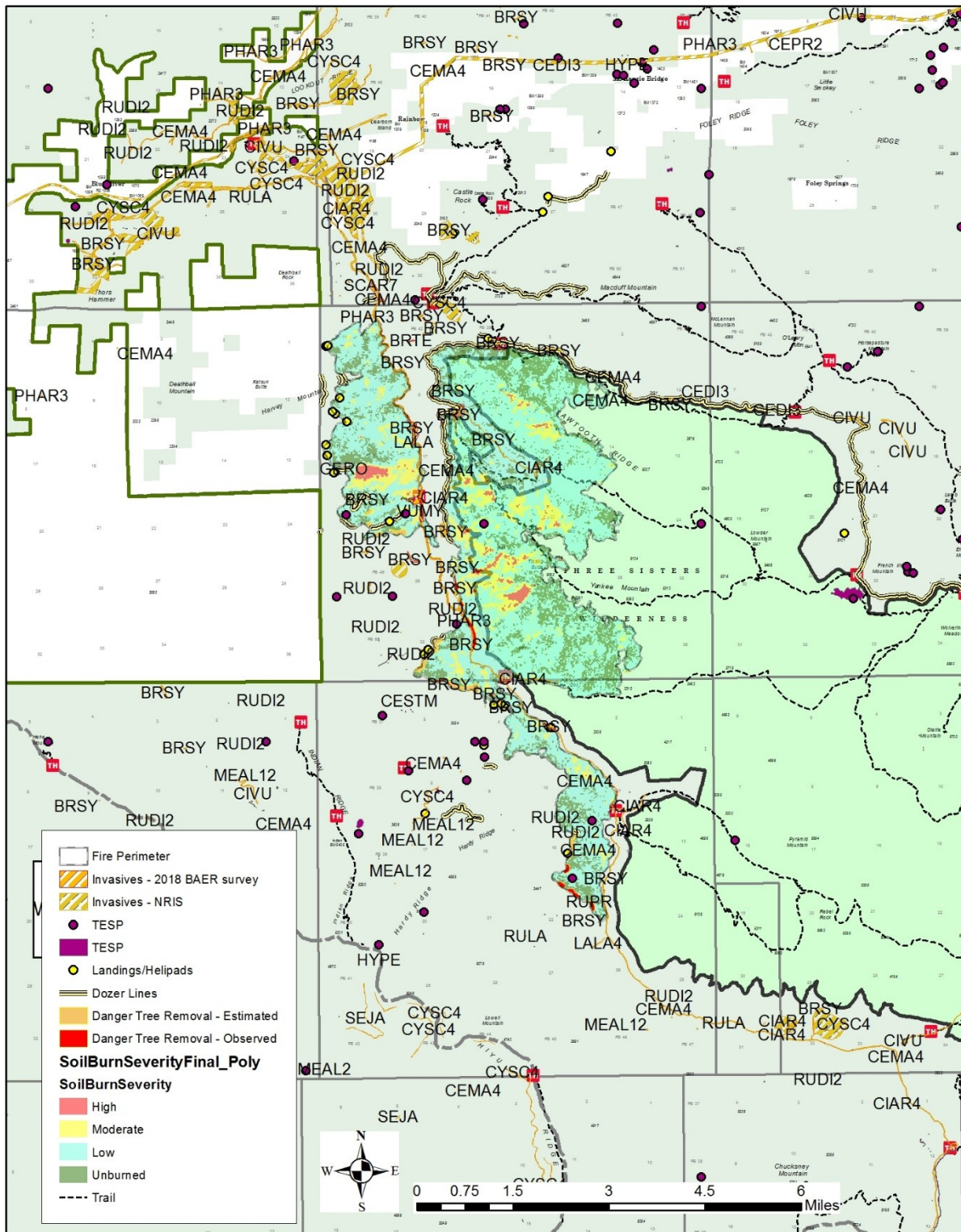
### **Special Habitat Areas and Sensitive Species**

- A. The Willamette National Forest Special Habitat Management Guide (Dimling and McCain, 1996) outlines habitat types and their importance to wildlife species, describes how to map habitats, and provides a methodology to delineate the buffer to maintain microclimate. It also states “if the key environmental factors for the sites have been significantly affected by large scale disturbance potential rehabilitation projects should include the recommendations of specialists. The aim is to prevent impacts on the hydrology, soil and plant communities while maintaining down woody debris for wildlife habitat.”
- B. A review of the special habitat (SHAB) forest database showed SHAB’s of approximately 1100 acres of within the fire perimeter, with approximately 968 of those acres within National Forest Wilderness. Special habitat types common in the fire include; moist and dry rock gardens, vine maple/talus fields and mesic meadows.
- C. A review of the NRM-TESP forest database showed six Element Occurrence points and seven Element Occurrence polygons within the fire perimeter
- D. A GIS analysis using the fire severity map (as of October 12, 2018) showed that 16 special habitat areas were in areas were rated as high severity, with a total acreage of 15.7, and all of this occurred within the wilderness boundary.

- E. Given the historic occurrence of fire on the landscape, the restrictions of the wilderness act, and the planned monitoring for invasive species, no further treatment or action is recommended for special habitats or sensitive species areas within the fire perimeter.

**Attachment 1: Invasive species within 1 mile of the Terwilliger fire perimeter**

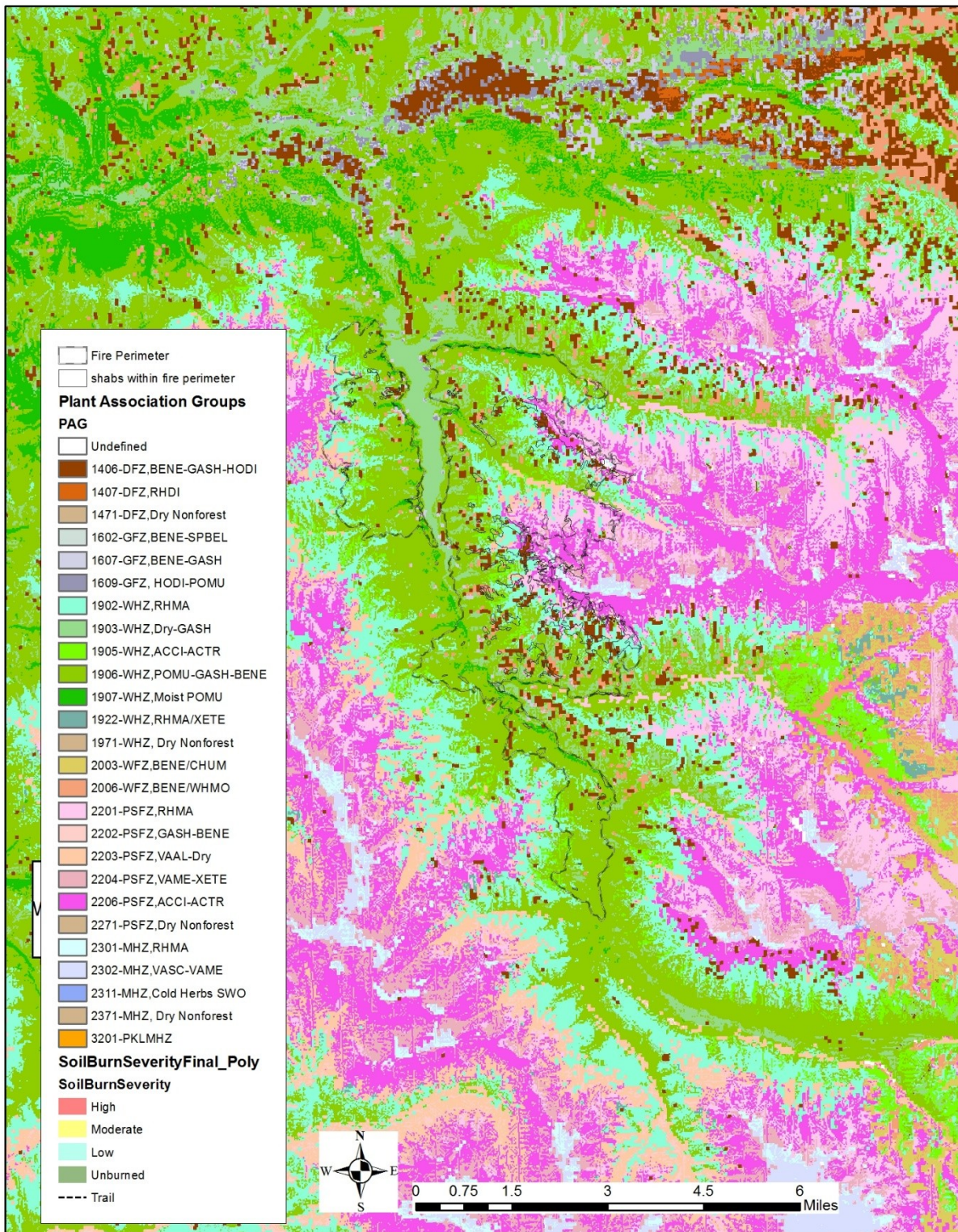
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Attachment 2: Vegetation types and special habitats within the Terwilliger fire perimeter



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Attachment 3: Special habitat types within the Terwilliger fire perimeter

<b>Habitat type</b>	<b>Sum of area (acres)</b>
Dry rock garden	308.25
Dry meadow	176.95
Talus	125.5
Vine maple (talus)	125.17
Mesic meadow	75.81
Rock outcrop	67.5
Sedge meadow	46.33
Rock face/cliff	43.69
Wet meadow	42.88
NONE	33.59
Hardwood inclusion	29.04
Sitka alder	18.61
Vine maple (rocky soil)	6.63
Moist Rock garden	2.07
Small openings	0.88
Pond	0.08
<b>Grand Total</b>	<b>1102.99</b>